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09/605,794	06/27/2000	Osman Abdoul Ismael	P2651C	6721

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EXAMINER
FOURSON, GARY SCOTT

ART UNIT	PAPER NUMBER
2151	10

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___3___ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Dec 27, 2001* _____

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-18* _____ is/are pending in the application.

　　4a) Of the above, claim(s) _____ is/are withdrawn from consideratio

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-18* _____ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

　　a)☐ All b)☐ Some* c)☐ None of:

　　　1. ☐ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *9*

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other: _____

DETAILED ACTION

1.   This non-final rejection is responsive to the Preliminary Amendment, part of paper no. 8, with certificate of mailing dated December 27, 2001.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3.   Claims 1-6 and 18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 18 recite limitations regarding identification of features of a target object which can be manipulated as well as implementing methods which support remote manipulation of the features. Applicant briefly notes in the BACKGROUND OF THE INVENTION on page 1 that Beans "typically share certain common defining features providing a set of properties, a set of methods for performing actions, and support for event and for introspection, also known as reflection," and although describing manipulation of properties throughout the written specification (see e.g. page 20), does not appear to describe manipulation of features nor methods supporting manipulation (local or remote) of those features.

Claim Rejections - 35 U.S.C. § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 1, 2, 6-8, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US Patent 5,724,588) in view of Object Management Group ("The Common Object Request Broker: Architecture and Specification") and further in view of Hollberg et al. (EP 0 727 739 A1).**

With respect to claims 1, 7, 15, 17, and 18, Hill et al. teaches generating a client object [proxy 303 column 6 line 64] forming a representation of a target object [Figure 3 object 301; Also see Figures 4A, 4B, 4C, 5, 12A, 12B, 14, and 15.], registering/instantiating a target object [Hill et al. Teach in the ABSTRACT "the server process instantiates an object that has multiple interfaces." Hill et al. teach stub 302 formation in Figure 8, and block 803 shows registration of the stub.], enabling a client application to access the target object by instantiating the client object [Hill et al. states in the ABSTRACT, "instantiates a proxy object for receiving requests to invoke a function member of the interface and for sending the request to the identified stub."], and the client object identifies remotely accessible methods [Column 6 lines 66-67 state, "The client then accesses the interface of object 301 through proxy 303." See also column 7 lines 1-3.] Hill et al. teaches registering a network protocol for remote method invocation in col. 19 lines 7-17, however, does not appear to explicitly teach associating the client object with a network adaptor.

The OMG teaches adaptors/ORBs for network connections in "The Common Object Request Broker: Architecture and Specification." OMG teaches the network adaptor(s) being registerable with the framework at the first machine [page 32] as well as adaptor(s) being responsive to requests from client machine to the target object(s) [page 8 teaches, "The Object Implementation information is provided at installation time and is

stored in the Implementation Repository for use during request delivery."]. Hill et al. teaches association of the client proxy objects with the server stubs and corresponding objects in Figures 3, 4A, 4B, and 4C. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to associate the ORB adapter for network connections as taught by OMG, because Hill recognized that the Proxy-Stub connection for remote procedure calls allows for distributed processing, see column 5 lines 42-63. However, Hill et al. as modified does not explicitly teach management methods (such as get and set) for remote access/manipulation of features of a target object.

As to the client object supporting remote manipulation of features of the target object and implementing management methods for access/remote manipulation of said features/methods of the target object via a remote access support framework, Hollberg et al. teaches agent based management of managed objects. The client application is a network management application as Hollberg et al. disclose an interface for converting network management application programs into network communication protocols, see abstract. Column 10 discloses both ProxyAgent Objects as well as Proxy Managed Objects in column 18 as local representatives of remote entities, see abstract. Column 9 lines 1-5 note that each Proxy Managed Object provides a set of methods to query or manipulate the real Managed Object in the agent. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the remote (proxy) management and manipulation of managed objects as disclosed by Hollberg et al. into the distributed CORBA based framework of Hill et al. as modified, because Hollberg recognized that "the object-oriented interface (OOI) for the use in OSI management applications and the related Object Interface Composer (OIC), minimize the effort needed to build the communication related functions of management applications."

As to **claim 2**, Hill et al. teaches the client object comprising a target object interface [col 6 lines 33-34] and a target object stub [col 7 lines 20-25] implementing the remote methods .

As to **claim 6**, Hollberg et al. teaches agent based management of managed objects. There is disclosed both ProxyAgent Objects in column 10, as well as Proxy Managed Objects in column 18 as local representatives of remote entities, see abstract. Hollberg recognized that "the object-oriented interface (OOI) for the use in OSI management applications and the related Object Interface Composer (OIC), minimize the effort needed to build the communication related functions of management applications." and Hollberg et al. disclose an interface for converting network management application programs into network communication protocols, see abstract.

As to **claim 8**, Hill et al. teaches the client object being compiled from a target object [The object oriented programming languages (i.e. C++, Smalltalk, and Java) are compiled into bytecodes for Java virtual machines or machine language for execution on processors.], the client object comprising a target object interface [col 6 lines 33-34], and a target object stub implementing remotely accessible methods [Column 9 lines 6-8 states, "In step 510, the stub invokes the method GetCell for the spreadsheet object passing the cell location."].

As to **claim 16**, OMG teaches software based adapter access functionality.

6.   **Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US Patent 5,724,588) as modified by Object Management Group ("The Common Object Request Broker: Architecture and Specification") and Hollberg et al. (EP 0 727 739 A1) as applied to claim 1 above, in view of Hughes ("JavaBeans and ActiveX go head to head") and further in view of Hamilton et al. (US Patent 5,737,607).**

As to **claim 4**, Hughes provides a comparison between JavaBeans and Microsoft's
ActiveX component frameworks. Distributed frameworks for the OOP component
paradigm were routinely utilized at the time the invention was made. It would have been
obvious to one of ordinary skill in the art at the time the invention was made to utilize the
JavaBean component framework for creation of the proxy and stub objects in conjunction
with the object request broker, because Hamilton et al. teaches in column 2 lines 44-46,
"It is therefore desired to allow Java programs to use different ORBs without requiring
any changes to the Java program."] and comprise properties methods and support for
events and introspection [Hughes teaches JavaBeans support autodescription through an
introspection mechanism on page 3. "The introspector class uses the BeanInfo class if it
is supplied; otherwise, it uses the Reflection API."].

As to **claim 5**, Hughes states on page 3, "With the Reflection API, one class can
examine the methods provided by another class."

7.   **Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Hill et al. (US Patent 5,724,588) as modified by Object Management Group ("The
Common Object Request Broker: Architecture and Specification") and Hollberg et
al. (EP 0 727 739 A1) as applied to claims 1 and 7 above, in view of Stutz et al. (US
Patent 5,517,645).**

As to **claim 3**, Hill et al. as modified by OMG for claim 2 teaches the limitations
substantially as claimed except selectively replacing the target object stub for
dynamically modifying the behavior of said client application at runtime [col 21 lines 37
et seq. teaches replacement of a target object stub at runtime. Therefore, it would have
been obvious to one of ordinary skill in the art at the time the invention was made to
selectively replace the target object stub at runtime as taught by Stutz et al., because Stutz

et al. recognized that passivation of a stub in order to replace the connection to the remote object with the reverse interface stub is desirable in certain instances.].

As to **claim 9**, Hill et al. as modified by OMG for claim 8 teaches the limitations substantially as claimed except the target object stub being selectively replaceable for dynamically modifying the behavior of the client application at runtime [col 21 lines 37 et seq. teaches replacement of a target object stub at runtime. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to selectively replace the target object stub at runtime as taught by Stutz et al., because Stutz et al. recognized that passivation of a stub in order to replace the connection to the remote object with the reverse interface stub is desirable in certain instances.].

8.   **Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US Patent 5,724,588) as modified by Object Management Group ("The Common Object Request Broker: Architecture and Specification"), Hollberg et al. (EP 0 727 739 A1), and Stutz et al. (US Patent 5,517,645) as applied to claim 9 above, in view of Hughes ("JavaBeans and ActiveX go head to head") and further in view of Hamilton et al. (US Patent 5,737,607).**

As to **claim 10**, Objects are known entities to provide encapsulation of data or properties accessible only by the encapsulating methods providing access to the data, and 'get' and 'set' methods are notoriously well known to provide basic manipulation in response to an outside event (i.e. another object calling the method of the client object). Hughes teaches JavaBeans support autodescription through an introspection mechanism on page 3. "The introspector class uses the BeanInfo class if it is supplied; otherwise, it uses the Reflection API." Distributed frameworks for the OOP component paradigm were routinely utilized at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the

JavaBean component framework for creation of the proxy and stub objects in conjunction with the object request broker, because Hamilton et al. teaches in column 2 lines 44-46, "It is therefore desired to allow Java programs to use different ORBs without requiring any changes to the Java program."

As to **claims 11 and 12,** Hughes teaches compares JavaBeans with Microsoft's ActiveX component frameworks. Hughes teaches JavaBeans support autodescription through an introspection mechanism on page 3. "The introspector class uses the BeanInfo class if it is supplied; otherwise, it uses the Reflection API." Distributed frameworks for the OOP component paradigm were routinely utilized at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the JavaBean component framework for creation of the proxy and stub objects in conjunction with the object request broker, because Hamilton et al. teaches in column 2 lines 44-46, "It is therefore desired to allow Java programs to use different ORBs without requiring any changes to the Java program."].

As to **claim 13,** Hollberg et al. teaches agent based management of managed objects. There is disclosed both ProxyAgent Objects in column 10, as well as Proxy Managed Objects in column 18 as local representatives of remote entities, see abstract. Hollberg recognized that "the object-oriented interface (OOI) for the use in OSI management applications and the related Object Interface Composer (OIC), minimize the effort needed to build the communication related functions of management applications."

As to **claim 14,** OMG teaches software based remote-access/adapter functionality.

Pertinent Prior Art

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Wanderer et al. (US 5,491,796) teaches a method for remotely managing resources. Utilizing prior art MIB and SNMP methods, remote configuration commands are constructed into SNMP set packets and sent to agents.

b. Hollberg et al. (US 6,182,153) teaches remote object management methods utilizing Proxy Managed Objects and Proxy Agent objects. [Note that US 6,182,153 claims foreign priority from Hollberg et al. (EP 0 727 739 A1)].

c. Sharpe, Jr. et al. (US 5,960,214) teaches a method for field device management utilizing OLE objects.

Response to Preliminary Amendment

10.   Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900. Any inquiry concerning this communication should be directed to **Gary Fourson** at **(703) 305-4392**.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to: gary.fourson@uspto.gov

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

The fax numbers for Official (703) 746-7239, to be intended for entry into the
application, Non-Official/Draft (703) 746-7240, or After-final (703) 746-7238
communications may be utilized for expedited transactions.

gsf

April 17, 2002

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